

REMARKS / ARGUMENTS

Examiner Do is thanked for the thorough examination of the subject Patent Application. The claims have been carefully reviewed and amended, and are considered to be in condition for allowance.

It is the objective of this invention to provide a multichannel digital filter bank circuit and a method implemented by cascading sub-filters of the recursive type suitable for graphically equalizing electrical signals received via a communication path. It is also an objective of this invention to produce equalized signals having minimal distortion of signal spectral characteristics including magnitude and phase. The circuit of this invention is implemented with cascaded connections of first order or second order digital filters. It is an additional objective of this invention to provide for the programming of the individual transfer functions of the above digital filters so as to produce unity gain. This unity gain case results in an output signal which is an exact replica of the input signal with no delay. This result indicates the minimal distortion introduced by the method of this invention.

Reconsideration of the rejection of claims 1-2 and 4-5, under 35 U.S.C. 103(a) as being unpatentable over Dyer (US Patent 4,947,360) in view of King et al. (US Patent 7,123,728) is requested based on the following.

As the examiner states in the May 3, 2007 office action, "Dyer fails to disclose in Figures 1-3 a filter which is suitable for graphically equalizing electrical signals received via a communication path, and first and second order digital filters have programmable parameters which allow users to shape graphics equalizer's frequency spectra as desired." Similarly, King fails to disclose anything new or suggestive of new about graphics equalizers. King et al. provides a computer tool for controlling a parametric equalizer. King et al. does not provide control or design for a graphics equalizer, as in the instant application's independent claim 1 shown below.

A graphics equalizer utilizing multichannel digital filter bank comprising:

a plurality of first order or second order digital filters, connected in a cascade fashion, whereby said electrical signals are enhanced, attenuated or kept the same, after passing through said cascading sub-filters, wherein said first order or second order digital filters are of the recursive type suitable for graphically equalizing electrical signals received via a communication path, wherein said first or second order digital filters do not require multiple sampling frequencies, and wherein said first and second order digital filters have programmable parameters which allow users to shape said graphics equalizer's frequency spectra as desired.

A graphics equalizer provides a plurality of bandpass filters. In the instant application, each bandpass filter allows a component of a signal in the bandpass frequency range to pass through the bandpass filter. These components are then added together. Parametric equalizers, similar to those handled by the computer tool mentioned in King et al., are able to move the center frequency and change the filter bandwidth range. For example, five coefficients may be used to define the center frequency and bandwidth range of a parametric equalizer. In addition, King et al. addresses bandpass

filters connected in parallel as indicated in column 1, lines 18-21 and in figure 1. The instant application's circuit uses serially cascaded connection of first and second order digital filters. Since King does not provide anything in the field of graphics equalizers and deals with parallel filters, the combination of Dyer and King do not make the instant application's graphics equalizer obvious. Dyer combined with King, both of which are not in the field of graphics equalizers, fail to suggest the instant application which is in the field of graphics equalizers. Therefore, independent claims 1 and 4 should be allowed. Similarly, dependent claims 2, 3 and 5, 6, which depend on independent claims 1 and 4 respectively, should also be allowed.

The examiner is thanked for the thorough review of this patent application. The changes to the specification do not introduce any new matter.

It is requested that should there be any problems with this Amendment, please call the undersigned Attorney at (845) 452-5863.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. B. ACKERMAN".

Stephen B. Ackerman, Reg. No. 37,761